



NOTEBOOK NEWS

TOSHIBA PMR DRIVES ARE GO

Japanese electronics giant Toshiba has started shipping what it claims is the world's first



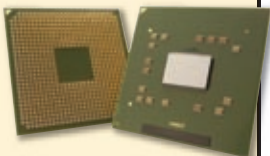
commercially available hard disk drive based on perpendicular magnetic recording (PMR).

PMR technology gets round the capacity limits of conventional longitudinal hard disks, where problems occur because data on the magnetic disk is stored as microscopic magnetic bits aligned in a plane. These tightly packed magnetic bits can repel each other, degrading the recorded bit quality. Standing these magnetic bits on end using PMR technology eliminates these issues by reinforcing magnetic coupling between neighbouring bits and boosting storage quality.

The 1.8" disk is designed for use in consumer electronics devices such as Toshiba's newly launched Gigabeat F41 music player. The technology can provide storage for up to 10,000 songs or 25,000 photos on a single 40GB platter.

AMD UNVEILS FASTEST EVER 64-BIT MOBILE ATHLON

AMD has promised to boost notebook performance with its fastest ever 64-bit notebook



processor, the Mobile Athlon 64 processor 4000+. Fujitsu Siemens was the first manufacturer to back the chip, announcing that it plans to build the high-end processor into a forthcoming AMILO A1667G notebook, which will be available throughout Europe.

AMD said the processor also includes its Enhanced Virus Protection (EVP) technology to help boost protection from virus and worm infections. It also supports the chip firm's PowerNow! dynamic power management technology to extend system battery life.

The Mobile AMD Athlon 64 processor 4000+ has started shipping for \$382 (around £224) in 1,000-unit trade quantities.

INTEL LIFTS LID ON MOBILE DUAL CORE PROCESSOR

Intel looks as if it will beat AMD to market with its dual-core mobile processor. Although the official launch is set for early next year, Intel demonstrated two working samples at its Intel Developers Forum (IDF) in San Francisco in August. AMD's chip, by comparison, is still at the proof-of-concept stage. No prices are available yet, but the launch is still a good six months away.

REVIEW NOTEBOOK PC

DELL Latitude X1

RATING ★★★★★

PRICE £1,379 inc VAT

SUPPLIER Dell 08709 075818

DETAILS www.dell.co.uk



For our ultra-portable notebooks test in *Labs, Shopper* October 2005, we set a price limit of £1,200, which excluded some of the lightest notebooks available, such as Samsung's Q30 and the ThinkPad X range. Tiny notebooks are often so expensive that only companies can afford to buy them, but Dell's Latitude X1 is an attempt to bring truly portable computing to the masses.

The Latitude X1 is slightly smaller than an A4 sheet of paper and is extremely light at only 1.14kg with the standard three-cell battery, which provides just over two hours of life. An optional six-cell battery increases battery life to four hours and 40 minutes and adds just 200g to the weight, so it is well worth the investment.

The notebook's slim chassis feels durable. There is some flex in the lid, but the base is solid and the keys have a fair amount of travel despite the notebook's minimal height. The X1 also has an accurate touch pad, and the buttons make a satisfying click. The notebook has built-in Bluetooth and FireWire, but only two USB2.0 ports – it has a proprietary connector on the left of the chassis for the standard external DVD+/-RW drive, but we feel the space would have been put to better use with another couple of USB2.0 ports. The notebook's 12.1" widescreen LCD is bright and

clear but produces rather dingy whites and has a grainy texture.

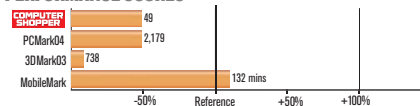
The X1 uses the ultra-low voltage (ULV) version of Intel's Pentium M processor running at 1.1GHz, and our review model had an extra 1GB of memory on top of the 256MB already on the motherboard. With such a low clock speed its performance was never going to be spectacular, but the notebook feels fast enough for normal office tasks and browsing the internet.

The notebook's chassis has no fans and so is completely silent, but this comes at a price. The base of the chassis gets very warm even when the notebook is idle, and after running one of our benchmarks, parts of the chassis were too hot to touch. Using the notebook on your lap becomes uncomfortable after a very short time.

This is a tiny and well-made notebook with decent battery life if you upgrade to the six-cell pack. The fact that it gets so hot is rather worrying, though, and our test model doesn't seem to be particularly good value. The 512MB version costs £230 less, and would be our choice for a good-value ultra-portable notebook.

Chris Finnamore

PERFORMANCE SCORES



✓ Tiny; good battery life with six-cell battery

✗ Base gets far too hot; grainy screen

SPECIFICATIONS 1.1GHz Intel Pentium M 733, 1.25GB RAM, 60GB hard disk, integrated Intel 915GM graphics, 12.1" 1,280x768 LCD, weighs 1.15kg (1.3kg with 6-cell battery). **E-value code** 305 - L09X19

HOTLIST NOTEBOOK PC

ACER Ferrari 4005 WLMi

RATING ★★★★★

PRICE £1,199 inc VAT

SUPPLIER www.acernotebooks.co.uk

DETAILS www.acer.co.uk



The latest notebook in Acer's Ferrari range has more tasteful styling than its previous gaudy efforts. What's more, it's a slim and well-built notebook with impressive 2D and 3D performance. It is crammed with features such as a double-layer DVD writer and built-in Bluetooth, and it has a huge 100GB hard disk and a gigabyte of RAM.

The soft rubber keyboard surround makes typing very comfortable and the high-resolution screen has excellent contrast and colour saturation. The 4005 WLMi is also

good value, showing that Acer is not charging over the odds for the Ferrari branding, despite the carbon-fibre lid.

SPECIFICATIONS 2.0GHz AMD Turion 64 ML-37, 1GB RAM, 100GB hard disk, ATI Mobility Radeon X700 graphics, DVD+/-RW DL, 1,680x1,050 widescreen LCD, weighs 3.05kg. **Part code** LX.FR406.034

REVIEW **NOTEBOOK PC**

TOSHIBA

Tecra A5

RATING ★★★★★

PRICE £800 inc VAT

SUPPLIER www.laptopsdirect.co.uk
DETAILS www.toshiba.co.uk

The Tecra A5 is Toshiba's first business notebook to have a 14" widescreen display. Based on Intel's latest Sonoma chipset, it is lightweight with sombre styling but plenty of connectivity options.

This notebook wouldn't look out of place in a boardroom thanks to its metallic grey lid and matt black interior. The screen backing is thick to protect the display, but the lid is alarmingly flexible. The plastic around the keyboard is high quality, though, and feels tough enough to cope with travelling.

Thanks to the notebook's widescreen format the Tecra A5 has decent-sized keys and plenty of room to rest your wrists when typing. The keys have a long travel but are springy, and the keyboard flexes slightly. Despite the large base, the notebook has a very small touch pad with tiny buttons. The buttons feel solid, but the touch pad is erratic, so navigating the large display can be frustrating.

Unlike many widescreen notebooks, the Tecra A5 has a non-reflective display. This is a good choice for a business notebook, as although reflective screens have more vibrant colours and better contrast, they are hard to use in brightly lit offices. The screen is bright with deep blacks, but large areas of colour and whites look grainy. Colours are also uneven across the display, which is especially noticeable when watching DVDs.

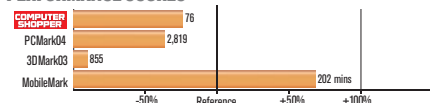


With four USB2.0 ports, S-video and D-sub outputs as well as FireWire and Bluetooth, the Tecra A5 can connect to just about anything. Bluetooth is especially useful when working away from your desk, allowing you to connect to a GPRS mobile phone to access the internet.

The notebook's 60GB hard disk is about average for an £800 notebook, but the inclusion of a CD-RW/DVD combo drive is inexcusable, as all but one of the £750 notebooks in our Labs test in *Shopper* September 2005 had DVD writers as standard. The Tecra A5 has a 1.6GHz Pentium M processor and 512MB of RAM, and its performance in the *Shopper* benchmarks and PCMark04 was good enough for most office applications. The notebook has over three hours of battery life, and at 2.4kg is light enough to carry around.

The Tecra A5 has good wired and wireless connectivity, but the rest of the notebook seems rather average for the price. It is a competent business notebook with reasonable performance, but for £800 it should stand out more.

Chris Finnamore

PERFORMANCE SCORES


✓ Light; good battery life

✗ Average performance; no DVD writer

SPECIFICATIONS Pentium M 1.6GHz, 512MB RAM, 60GB hard disk, Intel 915GM integrated graphics, CD-RW/DVD combo drive, 14" 1,280x768 widescreen LCD. **Part code** PTA50E-02H009EN

HOTLIST **NOTEBOOK PC**

ELONEX

Prowire 121B

RATING ★★★★★

PRICE £956 inc VAT

SUPPLIER [Elonex 08707 801010](http://Elonex)
DETAILS www.elonex.co.uk


Elonex's Prowire 121B won a Best Buy award in our Labs test of ultra-portable notebooks in *Shopper* October 2005. It's stylish, slim and incredibly light, weighing just 1.5kg with the standard battery. Its 12.1" LCD is very bright and it comes with a generous 80GB hard disk.

The Prowire 121B offers performance as well as portability. Its 2GHz Intel Pentium M processor is fast enough for most Windows applications, and it even has sufficient power to handle processor-intensive tasks such as video editing. The notebook is supplied with three-cell and six-cell batteries, and while

battery life with the three-cell is poor, the six-cell battery provides more than four hours of computing and adds only 200g to the weight. This is a desirable and powerful notebook and is very good value.

SPECIFICATIONS 2GHz Intel Pentium M 755, 512MB RAM, 80GB hard disk, Intel 855GME integrated graphics, DVD/CD-RW, 12.1" LCD



Our round-up of the best new gadgets and software

KEYSONIC

Metal-mini Keyboard USB

RATING ★★★★★

PRICE £19 inc VAT

SUPPLIER www.kotech.co.uk
DETAILS www.nanopoint.co.uk

If you have a server or Media Center PC and don't need to use a keyboard very often, you could benefit from Keysonic's Metal-mini Keyboard USB. The tiny notebook-style keyboard is half the size of an issue of *Shopper* and weighs just 400g.

It's very thin and easily tucked out of sight, although its brushed aluminium finish looks good on display. It's fairly comfortable to type on, but not for prolonged periods. A function button activates features such as the number pad, but with no colour coding it's hard to see which functions the key operates.

The keyboard has a range of short cut buttons for email, web and powering the PC on and off. It's excellent value if you're looking for a slim keyboard for occasional use.

David Ludlow



JBL

On Tour

RATING ★★★★★

PRICE £60 inc VAT

SUPPLIER www.dabs.com
DETAILS www.harman-multimedia.com

Using earphones to listen to music on your MP3 player can be antisocial, but if you really want to annoy everyone on the train, you need a pair of travel speakers. Made in smart white plastic that matches an iPod, these speakers from JBL might be just the ticket. They're powered by four AAA batteries and come with an AC adaptor.

The On Tours sound great with a range of music. They're pretty loud and can reproduce low bass tones that are normally beyond this class of speaker. Strong metal grilles and a sliding plastic cover ensure the drivers are well protected in transit. There's no cloth bag, but these are better value than most.

Simon Handby





REVIEW NOTEBOOK PC

ROCK Pegasus 650

RATING ★★★★★

PRICE £1,408 inc VAT

SUPPLIER Rock Direct 08709 909090

DETAILS www.rockdirect.co.uk

After a slow start, we are beginning to see more notebooks that use the new MXM upgradable notebook graphics standard. So far, both the notebooks we've seen with MXM graphics have used nVidia modules, but Rock's Pegasus 650 has ATI's Radeon X700 chipset.

Rock describes the Pegasus 650 as a gaming notebook, and its styling is certainly more leisure than business. The lid on our test unit has a varnished metallic finish that looks great, and it's available in four other finishes. The chassis feels sturdy with little flex in the base, and at 3.2kg the notebook is fairly easy to transport.

The Pegasus 650 has a large footprint, but this means there's plenty of room for your wrists when typing, and the keyboard has excellent travel and feedback. The recessed touch pad looks great and is very accurate, with huge buttons. The screen could be brighter, but otherwise it's hard to fault. Contrast is astounding for a non-reflective display, and the vibrant colours do not fade at the edges of the screen and have no hint of graininess.

The base of the notebook houses three USB2.0 ports and FireWire, and a small switch on the front of the chassis swaps between ATI's discrete graphics chipset and the integrated graphics on the motherboard to prolong the battery life when

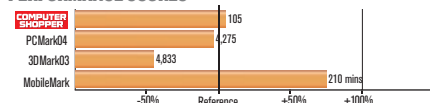
you're not playing games. The battery lasted for 125 minutes when using the ATI chipset, but this improved to 210 minutes when we reverted to the motherboard's built-in graphics.

Our test notebook was the top-of-the-range model with a 2.13GHz Intel Pentium M processor and 1GB of RAM. It's very powerful, and its scores in the *Shopper* benchmarks and PCMark04 are the best we have seen from a notebook with a mobile processor. Its gaming performance was also impressive – 23.1fps in our Doom 3 benchmark shows that it's capable of running today's games at high resolutions and detail levels, but it is not as fast as MV's Ixius 15, which we reviewed in *What's New, Shopper* October 2005.

Rock's Pegasus 650 is a very stylish and desirable notebook with an excellent screen and impressive 2D and 3D performance. Being able to turn off the discrete graphics chipset to boost the battery life is a novel idea, but the notebook is rather expensive. If you're after a bargain gaming notebook, MV's Ixius 15 is better value, but it's not as stylish as the Pegasus.

Chris Finnamore

PERFORMANCE SCORES



Looks great; very fast



Expensive

SPECIFICATIONS 2.13GHz Intel Pentium M 770, 1GB RAM, 100GB hard disk, ATI Mobility Radeon X700 graphics, DVD+/-RW DL, 1,280x800 pixel widescreen LCD, weighs 3.2kg. **Part code** P650-2.13

HOTLIST NOTEBOOK PC

MV Mobeus MV010652

RATING ★★★★★

PRICE £1,129 inc VAT

SUPPLIER MV 08718 554668

DETAILS www.go-mv.com

Although it's not quite an ultra-portable, MV's Mobeus MV010652 is an extremely powerful notebook that is still light enough to carry around. Its silver lid may be an acquired taste, but the black interior looks smart and the notebook feels durable. It has an excellent keyboard and is brimming with features, including Bluetooth and a DVD writer. Its reflective widescreen LCD produces saturated colours and very bright whites, but the touch pad is not particularly accurate.

The Mobeus's performance is probably its most impressive aspect. It achieved very high

scores in the *Shopper* benchmarks and PCMark04 thanks to its 2GHz Intel Pentium M processor and gigabyte of system memory, and it has over three hours of battery life for travelling.

SPECIFICATIONS 2GHz Intel Pentium M 755, 1GB RAM, 60GB hard disk, integrated Intel 855GME graphics, DVD+/-RW DL, 12.1" widescreen LCD

BYTE SIZE!



Our round-up of the best new gadgets and software

TECH AIR TAR3506 Messenger

RATING ★★★★★

PRICE £40 inc VAT

SUPPLIER Tech Air 01672 519933

DETAILS www.techair.co.uk

Tech Air makes notebook bags that don't look like notebook bags. The TAR3506 Messenger's khaki finish is much more stylish than a standard leather case, but we're not sure about the orange stripe.



The bag can accommodate notebooks up to 15.4" and still has plenty of room for cables, accessories and overnight gear. The main compartment has tough foam backing and air-filled compartments to protect your notebook, and there is a variety of pockets for pens and cards. It also has a pocket at the back for an MP3 player, complete with a small hole for your headphones. This bag looks great and is very good value.

Chris Finnamore

GENIUS TwinTouch 19eNB

RATING ★★★★★

PRICE £34 inc VAT

SUPPLIER www.techfever.co.ukDETAILS www.genius.co.uk

Genius's TwinTouch 19eNB is a slim (14mm thick) wireless keyboard and mouse set. The keyboard is notebook-style, so its keys are flush with the surround. It is comfortable to type on for long periods and the keys have plenty of travel. However, it isn't as wide as a normal keyboard, so you lose the area that usually houses the cursor keys and the End key.



The scroll wheel mouse is small but fits comfortably in the hand. The keyboard and mouse take two AAA batteries each. Genius supplies six rechargeable batteries so you can keep two on charge in the provided USB battery charger. This is a well-designed and equipped wireless keyboard and mouse at a very reasonable price.

David Ludlow



CHOOSING A...

NOTEBOOK
COMPUTER

Follow our simple step-by-step advice to find the perfect notebook PC for your needs and your budget

1 The minimum specification of notebook we recommend, shown below in grey, is a good starting point when working out your ideal system. This is an average notebook that should cost around £700. It is not particularly powerful or, at 3.5kg, particularly portable. Mobile processors increase battery life and are becoming more common, even at this price.

2 Most people want a better notebook than the minimum – but what is your definition of better? Do you want something more powerful, or lighter and better-looking? Desktop replacement notebooks, which approach the power of a full-size PC, are necessarily large to house the extras. These usually include a desktop processor and larger battery to keep the whole lot running for any length of time.

3 If portability is your main priority, keep the spec modest (a Pentium M 1.7GHz with a 15" screen, say) but spend more. This will buy you an executive notebook with the kind of cutting-edge design required to miniaturise without compromising usability. Clever chassis, expensive batteries and the finest materials are prerequisites for superior ultra-portable notebooks.

4 There are features you can add to a notebook without piling on weight or reducing battery life. A 60GB, 80GB or 100GB hard disk and 1GB of RAM won't hurt. Another possibility is an external drive that you can carry with you or leave at home according to the nature of your trip. Some ultra-portables can attach to an optional docking station, which incorporates drives, ports and extra power for when you need it. It's the best of both worlds, but tends to be expensive.

5 If you're not swayed by ultra-portable chic, you can get a lot more for your money. Today's desktop replacements pile on the features but still keep the price well under £1,500. Alternatively, go for a balanced package: middling power and price in a reasonably portable package. Which one you pick depends on how much power and which features you need, so consider each in turn.

6 Notebooks run the same software as desktops, so our advice on the core specification is the same (see page 16). However, hard disks go up to only 100GB and even the best notebook graphics lag behind desktops.

7 DVD rewriter drives are standard and will allow you to burn CDs and DVDs on the move. If you want to watch movies, consider buying a notebook with a widescreen display.

8 A 1,024x768 screen is the entry level these days, but its size will depend on the notebook's purpose. Ultra-portables might have screens as small as 9". Widescreen displays have resolutions of 1,200x768 upwards but make for a bulkier notebook.

9 A modem and regular 10/100 Ethernet port are standard. Centrino notebooks also have wireless 802.11b or 802.11g networking (WiFi), and it's becoming increasingly popular on all models. IEEE-1394 (FireWire) and Bluetooth can be added to the default TV-out and USB2.0 ports. Memory card readers are extremely common, so check that your camera or MP3 player's format is supported.

10 Once you're happy with your spec, start to shortlist some models you can afford. Check the weight and battery life of each of them. If these aren't acceptable, you need to reconsider how much power and which features you really need.

FILL IN YOUR SPECS HERE
(Recommended minimum in grey)

PROCESSOR: AMD Mobile Sempron 1800+

MEMORY: 512MB DDR

HARD DISK: 40GB

STORAGE: DVD rewriter

GRAPHICS: Integrated (using system memory)

SCREEN: 1,024x768 LCD

EXTRAS: Wireless networking, FireWire

CONNECTORS: Three USB2.0, network, modem

SOFTWARE: Windows XP Home Edition

WEIGHT: 3.5kg

BYTE
SIZE!

Our round-up of the best new gadgets and software

TRUST
CR-1200

RATING ★★★★★

PRICE £14 inc VAT

SUPPLIER www.amkells.co.uk

DETAILS www.trust.com



The number of memory card formats seems to keep increasing, and you probably have devices that use different formats already.

Trust's CR-1200 16-in-1 memory card reader should cover all your memory card needs. It supports all common formats including SD, CompactFlash, Memory Stick and xD. All that's missing is the relatively new mini-SD.

The CR-1200 is half the size of a deck of cards and connects to your PC through USB Hi-Speed. Windows recognises it automatically, but you'll need to install Trust's drivers, as these label the drives by card type in My Computer so that you know which one contains your media.

It's cheap, and as it supports so many formats, it's a good choice for anyone who's confused by all their different memory cards.

David Ludlow

MICROSOFT
Remote Keyboard

RATING ★★★★★

PRICE £42 inc VAT

SUPPLIER www.mediacomputers.co.uk

DETAILS www.microsoft.co.uk



With a Media Center PC

you can use the remote for most things, but sometimes you need a keyboard.

Microsoft's Remote Keyboard is designed to meet your needs. It's thin and sits comfortably in your lap and has all the same buttons as your remote control, plus a TrackPoint, mouse buttons and a keyboard (with no number pad).

It communicates using infrared through the Media Center's receiver (it won't work with normal PCs) so you need to make sure you maintain a line of sight. You also need a driver to get the keyboard and mouse working. Media Center owners will love it, but we can't help feeling it's a little expensive.

David Ludlow